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3. THE ROLE OF COMPUTER MEDIATION IN THE INSTRUCTION AND DEVELOPMENT OF L2 PRAGMATIC COMPETENCE

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This article provides a selective review of the role of computer mediation in the instruction and development of second language (L2) or interlanguage pragmatic competence within foreign and second language education. Both researchers and practitioners have noted consistently that several aspects of the teaching and tutored learning of L2 pragmatics have been reported as problematic and/or underexplored in the published knowledge base to date, including the availability and authenticity of instructional materials, the provision of opportunities for the performance and practice of L2 pragmatic competence in meaningful interactions, the relative lack of developmental data documenting the precise (and varied) pathways of L2 pragmatic competence over time, and the efficacy of particular pedagogical interventions in classroom-based L2 pragmatics instruction. The role of computer mediation in each of these underexplored areas is examined with a special emphasis on the teaching and learning of L2 pragmatics in Internet-mediated partnerships and on the use of (learner) corpora in L2 pragmatics instruction and research.

The purpose of this article is to provide a selective review of the work to date on the role of computer mediation in the classroom-based teaching and development of L2 pragmatic competence. There is a general consensus among scholars that *pragmatics* involves the study of communicative language use in sociocultural context. Crystal (1997), for example, defined pragmatics as “the study of language from the point of view of users, especially of the choices they make, the constraints they encounter in using language in social interaction and the effects their use of language has on other participants in the act of communication” (p. 301). Kasper and Rose (2001) further explained that pragmatics focuses on “the way speakers and writers accomplish goals as social actors who do not need to just get things done but must attend to their interpersonal relationships with other participants at the same time” (p. 2). Bardovi-Harlig and Dörnyei (1998) helpfully contrasted grammar and pragmatics: “Grammar relates to the accuracy of structure, including morphology and syntax, whereas pragmatics addresses language use and is concerned with the appropriateness of utterances given specific situations, speakers, and content” (p. 233).¹

Language teachers and researchers have implemented *technology in general* in L2 pragmatics research and instruction for some time, for example, the use of feature films and videos to exemplify native speaker (NS) speech acts, audio and video capture of learners' pragmatic output, and input enhancement of pragmatic features (e.g., Bardovi-Harlig & Dörnyei, 1998; Rose, 2001; Tatsuki & Nishizawa, 2005; Witten, 2002). However, few studies have appeared that address the roles of *computer mediation* (CM) and *computer-mediated communication* (CMC)² in particular in the development of L2 pragmatic competence, although these phenomena have prompted intense study in a wide variety of other disciplines, including communication theory, cultural studies, education, linguistics, and sociology (e.g., Crystal, 2001; Cummins & Sayers, 1995; Herring, 2002; Turkle, 1995; Walther, 1996). For example, some scholars have provided descriptions of the pragmatics of CMC as a new mode of interaction in its own right (e.g., Feenberg, 1989; Yus, 2001); others have focused on the pragmatics of particular Internet communication tools (ICTs) such as e-mail or chat (e.g., Jara, 2003; Tang & Su, 2002); while still others have examined the communicative behavior of particular groups of speakers in online interactions (e.g., Biesenbach-Lucas, 2005; Herring, 2003; Martinez-Flor & Fukuya, 2005; Warschauer, El Said, & Zohry, 2002). In addition, researchers have investigated the similarities and differences between the pragmatics of CMC and face-to-face interaction (e.g., Zitzen & Stein, 2004).

The organizing principle for this review involves an examination of the potential contribution of CM and CMC to those aspects of the instruction and development of L2 pragmatics that teachers and researchers consistently have identified as either problematic or underexplored (see Bardovi-Harlig, 1999, 2001; Bardovi-Harlig & Mahan-Taylor, 2003; Kasper, 2001a; Kasper & Rose, 1999). These aspects include (1) the availability and authenticity of instructional materials, (2) the exposure of classroom learners to broadened discourse options and the provision of opportunities for the performance and practice of L2 pragmatics in meaningful interactions, (3) the longitudinal documentation of developmental pathways for L2 pragmatic competence, and (4) the efficacy of particular pedagogical interventions in L2 pragmatics instruction. In each case, recent research has explored the ways in which CM and/or CMC may contribute to either filling these research gaps or enhancing classroom practices in the area of L2 pragmatics. In this review, a variety of ICTs are considered, including "self-access websites" (Cohen, 2007, in press), blogs, chat, synthetic immersion environments, and videoconferencing, but a special emphasis has been placed on Internet-mediated intercultural foreign language education, commonly known as *telecollaboration* (see Belz & Thorne, 2006; O'Dowd, 2007; Warschauer & Kern, 2000), and corpus linguistics, based on the numerical frequency of recent studies in which these approaches have been implicated in L2 pragmatics research and instruction.

The praxiological hallmark of telecollaborative partnerships is the use of ICTs to link linguistically and culturally disparate groups of language learners and teachers over an extended period of time in order to work collaboratively on a variety of language-based activities and/or projects. For those who view linguistic development as the primary objective of foreign/second language study,

telecollaborative exchanges can be interpreted as a vehicle for increased exposure to L2 input in the form of NS keypals. For those, however, who emphasize the potential of foreign/second language study as a mediator of intercultural competence (e.g., Byram, 1997) and self-discovery, telecollaborative partnerships have been welcomed as a cost-effective opportunity for intercultural communication and exploration between (young) people who may otherwise not have the opportunity for sustained interaction with persons from other cultures. The expectation is that learners will develop personal relationships with one another while using the languages under study to do so.

The first half of this article focuses on the ways in which telecollaboration has contributed to (1) the authenticity of instructional materials for the development of L2 pragmatic competence and (2) learners' exposure to broadened L2 discourse options and the provision of opportunities for performance and practice in meaningful interactions. Other foci include the use of Web sites for the delivery of instructional materials, the development of classroom materials based on synchronic collections of native productions (corpora), and the use of synchronous CMC (SCMC) and avatars to create online opportunities for the performance and practice of L2 pragmatic competence.

To date, corpus linguistics has emerged as a valuable tool for the description of language use across registers and speakers (e.g., Biber, 2006; Biber, Connor, & Upton, 2007; Biber, Conrad, & Reppen, 1998; Biber & Conrad, 2003; Connor & Upton, 2004). Analyses of large native English corpora have been used for the enhancement and production of dictionaries, grammars, textbooks, and other language-teaching materials (Biber, Conrad, & Leech, 2002; Biber, Johansson, Leech, Conrad, & Finegan, 1999; Carter & McCarthy, 2006; McCarthy, McCarten, & Sandiford, 2005). In addition, some scholars have provided concrete examples and explicit instructions on how to use native corpora in tutored language instruction (e.g., Johns, 1991, 2002; O'Keeffe, McCarthy, & Carter, 2007; Sinclair, 2003, 2004). Nevertheless, Braun (2005) warned that the use of native corpora is "still far from being part of mainstream teaching practice, if not *terra incognita* altogether," despite the fact that "corpus" is often "the 'buzzword' in language research departments" (p. 48).³

Learner corpora⁴ have enjoyed even less currency than native corpora in foreign/second language instruction (see, however, Boers et al., 2007) because of their relative rarity, the fact that most are compilations of L2 English, and a certain degree of skepticism concerning the use of learner productions in L2 instruction (Meunier, 2002). In addition, learner corpora have attracted little attention among second language acquisition (SLA) researchers because they tend to describe L2 use only at a particular point in time. As a result, they are not positioned well to address questions at the heart of SLA research, namely, how does L2 competence *change* over time? Learner corpus pioneer Sylviane Granger (2002) explained the situation in the following way: "There are very few longitudinal corpora, i.e., corpora which cover the evolution of learner use. The reason is simple: such corpora are very difficult to compile as they require a learner population to be followed for months or, preferably,

years” (p. 11). In the second half of this review, I highlight recent research on the use of developmental learner corpora to track the development of L2 pragmatic competence over time and to design and implement pedagogical interventions for L2 pragmatics instruction.

The Availability and Authenticity of Instructional Materials

Bardovi-Harlig’s (2001) statement that “in general, textbooks cannot be counted on as a reliable source of pragmatic input for classroom language learners” (p. 25) is predicated on a body of research, which indicates that language textbooks (1) include little information on L2 pragmatics, (2) lack explicit discussions of conversational norms and practices, and (3) contain inauthentic language samples that are based on introspection rather than genuine language use (see also Boxer & Pickering, 1995; Wong, 2001). To illustrate, over a decade ago, Bardovi-Harlig (1996) cautioned against the use of invented dialogues in pragmatics instruction and recommended, instead, that materials should “utilize authentic language” and include information on “the distribution and frequency of occurrence of the alternative forms presented to learners” (pp. 27, 36). Nearly a decade later, Vellenga (2004, no page.) concluded that “little seems to have changed” based on her analysis of the quantity and quality of information on politeness, appropriateness, usage, register, metapragmatics, and speech acts in English as a Second Language ESL and English as a Foreign Language EFL textbooks (see also Tatsuki, Kite, & Maeda, 2007).

The key complaint regarding L2 pragmatics instruction seems to center on “authenticity,” the definition of which has been “a subject of great controversy” within foreign/second language study for the last three decades (Mishan, 2004b, p. 1). Drawing on the various and varied conceptualizations of the term in the published literature, Mishan (2004b) established a “set of criteria for authenticity” (p. 18) for the assessment of texts in the design of language learning materials. According to Mishan, authenticity is a factor of (1) provenance and authorship, (2) the original communicative and sociocultural purpose of the text, (3) the original context, (4) the learning activity based on the text, and (5) learners’ perceptions of and attitudes toward the text and the derived learning activity. Mishan’s criteria for authenticity take into account Widdowson’s (1979, 2003) well-known distinction between *text*, that is, products of language use isolated from any communicative act, and *discourse*, that is, the meaningful use of language in concrete communicative situations. Although a text may be *genuine* (i.e., produced by a NS in a real life context), it nevertheless may fail to be perceived as *authentic discourse* by a language learner because the learner may be unable to create a meaningful relationship to the text by constructing a relevant context for its use, among other things (Widdowson, 1978, p. 80). In other words, as Prodromou (1998) put it, “authenticity is in the eyes of the participants” (p. 267).

One of the most recent and robust attempts to provide learners with instructional materials for L2 pragmatics via CM is the work of Andrew Cohen, Noriko Ishihara, and Julie M. Sykes at the Center for Advanced Research on Language Acquisition (CARLA) at the University of Minnesota (Cohen, 2007; Cohen & Ishihara, 2005; Sykes & Cohen, 2006; see also CLEAR, 2007). Using

videos of “simulated conversations” (Sykes & Cohen, 2006) as a source of inferential data for NS performance, these authors have designed “self-access websites” (Cohen, in press) for pragmatics instruction in L2 Spanish and L2 Japanese that are intended for extracurricular, self-directed use by low-intermediate to advanced-level students. Two salient theoretical commitments underpin the Web sites: styles- and strategies-based instruction (SSBI; see Cohen, 2005) and speech act theory. In short, the sites incorporate metapragmatic information (explanatory prose), scaffolding (help buttons), individual pragmatic performance (input boxes for student answers), learner-directed feedback (pop-up windows containing suggested answers), and self-discovery and reflection (video viewing, comparison of one’s own answers with suggested, simulated answers) to get students to employ *learning and use strategies* and metapragmatic considerations to appropriately engage in speech acts. An example of a speech act *learning* strategy is “gather[ing] information (through observation, interviews, written materials, movies, radio) on how the [speech] acts are performed”; whereas an example of a speech act *use* strategy is “determin[ing] your learning style preferences and try[ing] approaches that are consistent with your individual style” (Sykes & Cohen, 2006, no page).

Ishihara (2007) discussed the impact of her comparable Web-based curriculum on the L2 pragmatic awareness of 18 students of Japanese in a third-year course as portrayed in their reflective journaling (see also Cohen, in press). Results show enhanced pragmatic awareness of at least one aspect of the given speech act for all learners, for example, the number of apologies required in a Japanese apology as opposed to an American one or shifting credit to others in response to a compliment. Among the limitations of her study, Ishihara (2007, p. 36) lists the lack of multisensory data such as streaming videos, the lack of oral interactional practice, and the use of “elicited discourses” instead of genuine data.

Based on Mishan’s (2004b) criteria for authenticity, Cohen, Sykes, and Ishihara’s materials would seem to score rather low with respect to authorship, provenance, the original communicative purposes of the given texts, and the original context of production. There does seem to be anecdotal evidence, however, that learners respond positively to the activities based on the simulated data and that they are able to authenticate the materials to some extent (see Cohen, in press), although the authors do not frame their discussion of learners’ responses in these terms.

In contrast to Cohen, Ishihara, and Sykes’s use of simulated conversations and elicited discourses, Braun (2005) capitalized on CM in *The ELISA Project* to provide learners of English with a Web-based resource for genuine English-language oral interviews containing L2 pragmatic information, among other things (http://www.uni-tuebingen.de/elisa/html/elisa_index.html). (*ELISA* stands for English Language Interview Corpus as a Second-Language Application.) The site contains approximately 15 video interviews with NSs of English from the United States, Britain, Australia, and Ireland concerning their work and professional careers (e.g., a mayor, an artist, a teacher). In addition to watching the videos and reading the transcripts, learners can search the interviews according to topics (e.g., networking, education and training, and organizing meetings) to retrieve genuine language

samples used by NSs to discuss the respective topics. Furthermore, learners can access word frequency lists for each interview, browse prepared concordances for attested words, search the interviews for KWIC (keyword in context) concordances of any chosen word or phrase, complete interview-based exercises such as cloze texts, and view interview metadata (e.g., gender and age of speaker, interview duration, etc.). *The ELISA Project* is significant because it is one of the first Web-based native corpora that is designed specifically for use by language learners and that incorporates multisensory data (e.g., videos and transcripts). Unlike *Dancing with Words*, however, available materials do not focus exclusively on pragmatics, and little metapragmatic commentary regarding NSs' language use is provided in its current state (e.g., differences between British and American usage).

Möllering's (2001) work is similar to Braun's (2005, 2007) in that Möllering exploited native corpora to provide learners with genuine examples of oral communication. Using the *Freiburger Korpus*, the *Dialogstrukturenkorpus*, and the *Pfeffer-Korpus*, Möllering (2001) produced pencil-and-paper worksheets for the classroom instruction of German modal particles, that is, "smallwords" (Hasselgren, 2002, p. 150) that function as attitudinal markers. Numerous researchers have noted the difficulty learners of German face in the acquisition of the modal particles due to their rampant polysemy and homonymy, on the one hand, and limited opportunities for exposure to their use in traditional teaching materials, on the other hand. Kasper (2001b) noted that "it would be insightful to investigate how these particles emerge in learners' performance and how they are used to modify specific speech acts or convey specific interpersonal functions in discourse" (p. 510) because, as Vyatkina (2007) put it, "the researcher can obtain a picture of pragmatic development *par excellence*" (p. 7) because grammatical difficulties cannot obscure pragmatic acquisition in the case of these nondeclinable particles (e.g., *ja*, *eben*, *doch*).

Möllering's (2001) worksheets consist of selected KWIC concordances from the corpora in which each modal particle is bolded and surrounded by short snippets of cotext (usually about 10 words to the left and the right of the focal word). Rather than following the typical MP teaching method of providing learners with lists of particle functions and meanings supplemented by (constructed) examples, learners are placed in the role of active language observers (see Tanaka, 1997) whose task is to match given meanings to groups of concordance lines and to analyze the lexical and grammatical collocational patterns for each group; for example, as an adverb of time, the particle *eben* co-occurs with the past tense. Thus, Möllering's use of concordances exemplifies the method of data-driven learning wherein language observation and problem solving mediate consciousness raising with relation to L2 pragmatics (see also Conrad, 1999; Granger & Tribble, 1998; Johns, 1991, 2002; Tribble & Jones, 1990).

In a later study, Möllering (2004) assessed the effectiveness of her worksheets with 19 college-level students of German. All but one of them found the concordance lines "slightly overwhelming" and "difficult to understand" (p. 245) because of their colloquial nature. These reports seem to corroborate Sykes and Cohen's (2006) contention that "pragmatics in natural data often shows up in ways

that are largely imperceptible to L2 learners” and to lend support to their decision to build their Web sites based on simulated (and simplified) conversations. An alternative perspective is offered by corpus linguists Ronald Carter and Michael McCarthy (1996), who wonder if it is not “patronizing to learners” as well as “a restriction in learner choice” when teachers and materials developers decide in advance that learners need not have access to certain varieties of language (such as genuine spoken language) and use, instead, “concocted” examples in teaching materials (p. 370). An interesting study by Schauer and Adolphs (2006) examined differences between simulated and naturally occurring data for L2 pragmatics instruction by comparing elicited NS expressions of gratitude in response to discourse completion tasks (DCTs) with genuine NS expressions of gratitude in a five-million-word corpus. Although the authors state that naturally occurring corpus data offer “insights into the procedural aspects of expressing gratitude which the DCT is unable to provide” (p. 130; see also Félix-Brasdefer, 2007; Golato, 2003), they ultimately conclude that both types of data are useful in L2 pragmatics instruction. Another explanation for the difficulty that Möllering’s students encounter in their explorations of the worksheets may lie in their inability to recontextualize the NS corpus data in ways that are meaningful to them (see Braun, 2005; Mishan, 2004a).

If Möllering’s (2004) students found the oral NS corpus data slightly overwhelming, then the 14 American learners of French in Kinginger’s (1998) study⁵ found themselves immersed in “a language to which [they] had never before been exposed, the existence of which they had been mainly unaware” (p. 510) during a one-hour videoconference with 10 NSs of French in the context of a telecollaborative partnership. Kinginger attributes the shock and anxiety that her students felt during the videoconference to the serious mismatch between spoken and written French, the “sentence-based model of standard written French” (p. 508) adopted in most textbooks, and prejudice concerning the “correctness” of spoken forms on the part of language teachers. As a result, most of the real time interaction afforded by the videoconference took place outside the American learners’ zone of proximal development (ZPD) at a level beyond their capacity to perform; however, teacher-guided examination of the videoconference transcripts in conjunction with repeated viewing of the videoconference itself led to a heightened awareness of the difference between spoken and written French and allowed students to form a concept of language variety, an aspect of pragmatic competence. This study thereby demonstrates the usefulness of the persistent records afforded by CM in the metapragmatic examination of genuine interactions. Kinginger (1998) concluded by noting that the “availability of telecommunications technology forces certain dilemmas of communicative language teaching out of abstract theory and into the daily life of classroom learning” (p. 510) because learners can readily access L2 language samples online (i.e., in chat rooms, blogs), which differ markedly from the language of their textbooks.

Lee and Swales (2006) reported on an advanced English for academic purposes (EAP) writing course in which doctoral students were encouraged to compile a small corpus of their own writing for purposes of comparison with a NS corpus. Unfortunately, the study is limited to just four NSs of Chinese, only one of

whom actually completed a course project in which she compared her L2 English writing as evidenced in her self-constructed corpus with a corpus of expert writing in her discipline, which she also constructed based on electronic versions of relevant published articles. Nevertheless, this one student was able to analyze her own data to raise her level of rhetorical consciousness with respect to aspects of language use in particular disciplinary contexts. For example, the student under study reflected that she could replace coordinate clauses in her own writing with the COMMA + VERB-ING clause of result (e.g., . . . , *posing a threat to continued vision and accomplishment*) after locating 15 instances of this structure in the expert corpus, but just one in the corpus of her own writing. This study thereby illustrates how learners might “concordance themselves” (see Coniam, 2004) to develop their L2 writing.

Broadened Discourse Options and Opportunities for Performance and Practice in Meaningful Interactions

Although it is generally recognized that the focus of pragmatics involves social interaction in various communicative contexts, most classroom-based language learning consists of discourse that is “institutionally asymmetric, non-negotiable, norm-referenced, and teacher-controlled” (Kramsch, 1985, p. 369). In fact, Kasper and Rose (2002) suspected that even the richest and most complex tasks in traditional language classrooms would be unlikely to “provide valid representations of pragmatic practices in authentic contexts” because of “the absence of social consequences” (p. 88) within meaningful interactions. The term “meaningful interactions” as used here draws on Widdowson’s (1979) notion of “authentication” and involves interactions with texts and people who matter to the learner in question where issues of identity are at stake. This section focuses on the ways in which CM may expand the variety of discourse options to which learners are exposed as well as create opportunities for the performance and practice of L2 pragmatic competence in meaningful interactions.

Although a number of studies has investigated the generally positive correlation between the use of synchronous CMC (SCMC) and opportunities for interactive L2 practice (e.g., Fiori, 2005; Healy-Beauvois, 1997; Kern, 1995; Payne & Ross, 2005; Pellettieri, 2000), Sykes (2005) is the first researcher to examine the influence of SCMC on pragmatic development from the perspective of speech act theory. Using a pretest/posttest design and a single moment treatment, Sykes investigated the effects of three types of synchronous discussion on learners’ use of head acts (HAs) and supporting moves (SMs) in the refusal of an invitation in L2 Spanish (see Garcia [2004] for a corpus-based examination of apologies). In the study, 27 third-semester learners first participated in a videotaped face-to-face (F2F) oral role-play to establish a baseline with respect to their pragmatic competence in invitation refusal. The students then received F2F classroom instruction on invitation refusal, followed by a 20-minute self-directed online instructional unit using videotaped model dialogues in a computer laboratory. The students were then assigned to a written chat (local program), oral chat (*Wimba*), or F2F group and asked to use their respective communicative mode to discuss questions about invitation

refusal and to practice refusal dialogues with one another. Following these synchronous discussions, learners again produced F2F oral role-plays in a videotaped posttest.

The results show that the written chat (WC) group outperformed the other two groups in terms of the complexity of HAs and the variety of SMS, thus, more closely approximating NS norms. For example, the WC group changed from use of direct refusals to grounders (*I have to go to my cousin's wedding*), while the F2F group maintained the use of direct refusals (*I am not going to your party because I have to work*). Sykes attributes differences at the posttest to contextual features of the three interaction modes during the treatment. For example, the increased complexity and variety of the speech acts in the WC group may be related to the slower pace of the communicative mode (we can speak faster than we can type), which allows more time for reflection and the construction of responses. Furthermore, students in the WC group were the only ones who had consistent practice in both the oral and written modes; such multimodal processing may account for better learner performance. This is an important finding for the design of classroom tasks that speaks to the advantages of blending, that is, the alteration of CM with more traditional forms of instruction.

One limitation of this noteworthy study is the short treatment period. Other factors for researchers to consider in the design of future studies include the elicited nature of the decisive role-play data at the pre- and posttests, particularly when CMC has been shown to afford highly interpersonal and even “hyperpersonal” (Walther, 1996) interaction, the more narrow casting of pragmatics in terms of speech act theory, and the reliance on NNS–NNS (nonnative speaker) interactions as a data source when an advantage of CMC is the ability to link learners with NSs.

Drawing on the potential value of video games for learning and literacy development as argued in Gee (2003, 2005), Cohen and Sykes's (2007) work-in-progress involves the use of online “synthetic immersive environments” (SIEs) for the development of pragmatic competence in L2 Spanish. In these virtual three-dimensional (3-D) spaces, learners adopt an identity represented visually by an avatar (i.e., a cartoon-like character used in video games), while they use written, oral, gestural, and environmental modes of communication to practice a variety of speech acts in Spanish and thereby develop their pragmatic competence. Teachers, NS guests, and other students can join the virtual space in the form of additional avatars (or players) to interact or “play” with one another. Cohen and Sykes (2007) maintain that the value of SIEs for the development of L2 pragmatic competence lies in the paced, individualized nature of the instruction, the various participant roles that learners may adopt, the opportunities for multimodal processing, and the opportunity for “low risk [interaction] with high emotional payoff.”

At this point, Cohen and Sykes's (2007) claims regarding SIEs remain empirical questions in search of answers. The use of “synthetic” interactions in these “immersive environments” will have to carve out its pedagogical value in the mediation of L2 pragmatic competence against the backdrop of the work on telecollaboration wherein learners interact as themselves in meaningful and

prolonged discussions with NS age peers, thereby experiencing “actual language with all of its richness and nuances” (Sykes & Cohen, 2006).

Because one of the goals of telecollaboration is the development of personal relationships with persons from other cultures while learners use their L2s, participants are not so much players in synthetic environments as they are “social actors” who must “attend to personal relationships” (i.e., get to know their foreign partners), while they “get things done” (i.e., collaborate on interclass projects) to “accomplish goals” (i.e., earn credit and get good grades). As this echo of Kasper and Rose’s (2001, p. 2) oft-cited definition of pragmatics makes clear, telecollaborative activity, by nature, is tightly aligned with the teaching and learning of L2 pragmatics. Indeed, Thorne (2006) noted that “embedding the learning of a new language in the larger context of significant relationship development has demonstrated considerable learning outcomes, *especially in the areas of pragmatics and critical reflexivity*” (p. 5; italics added; see also Kern, 2006). Nevertheless, the potential of telecollaboration for L2 pragmatic development, research, and instruction has not been realized fully within foreign language education circles.

A clear example of the ways in which personal relationship building may impact L2 pragmatic development is seen in Belz and Kinginger (2002) for the case of French and German informal (T) and formal (V) pronouns of address. In these languages, the appropriate use of T/V pronouns is essential for establishing and maintaining good social relations, yet the research has shown that even NSs have difficulty in deciding which pronouns to use based on both the complexity and ambiguity of the system (Delisle, 1986).

To demonstrate how meaningful interaction led to increased awareness and improved use of the T of solidarity in telecollaboration, Belz and Kinginger (2002) offered a microgenetic analysis of Joe, a 21-year-old learner of German, who participated in a 50-day telecollaborative partnership during which he wrote 14 e-mails and engaged in 9 hours of SCMC with a German woman named Gabi (both names are pseudonyms). Microgenesis, which is rooted in the Vygotskian notion that development can only be understood by specifying its history, involves the close observation of a particular developmental phenomenon within a given task. Telecollaborative discourse is particularly amenable to microgenetic analysis because the totality of learner’s utterances is electronically archived to produce a complete, dense, and persistent record of their interactions.

Over the course of the partnership, Joe uses 14 V forms (all inaccurate) and 66 T forms, although he and his classmates were counseled explicitly by their instructor to use T forms with fellow students and despite the fact that no NS partners ever use a V form with Joe or any of his American classmates. In fact, Joe’s T/V use is in free variation at the outset of the partnership, which is indicated by his use of both T and V forms with the same interlocutor, often in the space of a single sentence. However, a quantitative analysis shows that his V uses tend to cluster toward the beginning of the exchange, while his T uses cluster toward the end of the exchange.

On day 34 of the partnership, Joe and Gabi participate in a flirtatious, 2-hour chat, during which Joe requests Gabi's private phone number, among other things, indicating a clear "informal" or T relationship. On the tails of this episode, Joe refers to Gabi with V, whereupon she responds immediately by typing (in German): "Joe PLEASE call me [INFORMAL 'YOU']" (capital letters in the original). After this critical incident, Joe engages in 7 additional hours of SCMC and writes one more e-mail to Gabi. These data reveal 39 T forms and only a single V form, which Joe uses to address a new interlocutor with whom he had not corresponded previously. Belz and Kinginger (2002) explained this dramatic change in Joe's pragmatic performance with respect to the T of solidarity in the following way: "In this synchronous medium, interacting with an expert speaker, someone in front of whom he most likely wants to maintain positive face, Joe experiences first-hand the social consequences of inappropriate V use in a way that is highly meaningful to him" (p. 205).

This research highlights the importance of learners' participation in relevant social interaction with people who matter to them, in this case, an attractive German woman, in discovering the significance of address form choice, which the authors see as a test case for L2 pragmatics in general. When designing computer-mediated tasks for the development of L2 pragmatic competence, researchers will have to balance the oft-reported, allegedly beneficial low-risk quality of CMC with the findings of this study where a relatively high-risk discourse option (flirting) and issues of face seem to have been key in driving L2 pragmatic development in CMC (see also Belz & Kinginger, 2003; Kinginger, 2000; Kinginger & Belz, 2005; Thorne, 2003).

O'Dowd (2006) provided numerous examples of the ways in which telecollaborative exchanges expose learners to a broader range of discourse options than may be found in traditional classroom settings. Subsequent teacher-guided examination of and reflection on these broadened discourse options in the form of CMC transcripts facilitate increased understandings of actual language use in context and the effects of language use on interlocutors.

In his study, 25 advanced EFL students at a German university communicated via e-mail and videoconferencing with 21 American students in a communication studies course on a number of self-generated topics such as gun control, racism, and the 2003 United States-led invasion of Iraq for a period 8 weeks. The students in both courses were trained in typical ethnographic interviewing techniques such as the use of grand tour questions and creative listening, which they were encouraged to apply during videoconferences to "discover and understand the symbolic meaning that is attributed to behavior in different cultures" and to become aware "that one's own way of seeing the world is not *natural* or *normal*, but culturally determined" (O'Dowd, 2006, p. 86; italics in the original).

The chosen topics presented numerous opportunities for the meaningful exploration of how partners framed and constructed the presentation of opinions, values, and beliefs, how they presented themselves and their culture, and how they managed agreement and disagreement. Learner feedback suggested that "the

occasions when there were misunderstandings or disagreement in the videoconferences proved to be the most insightful and rich with respect to cultural learning” (O’Dowd, 2006, p. 102). During one such disagreement on the legitimacy of the 2003 Iraq war, an American student began to cry as she tried to justify her unflinching support for the war to her German partners. O’Dowd (2006) explained that the “first-hand experience of an intercultural difference of opinion and the intense, personal nature of the videoconference interaction meant that the German students were not able to ignore the American perspective; instead, they had to look for the socio-cultural contexts which had shaped the development of their American partners’ perspectives” and attend to the ways in which those sociocultural contexts were reflected in the language the Americans used to tell their stories.

Working within a cultural studies framework (Graff, 1992), Schneider and von der Emde (2006) highlighted the potential of telecollaboration to offer learners real-time exposure to another underexamined discourse option in tutored language learning: the dialogic management of conflict. It is important to note that these scholars do not view conflict in terms of the speech act of disagreement, but rather as a conceptual structure around which to organize their curriculum, capitalizing on its potential to “de-center students from their own culture’s worldviews and require them to evaluate critically perspectives, practices, and products in one’s own and other cultures through interpretation” (Schneider & von der Emde, 2006, p. 183).

To illustrate how conflict can function as a “productive source for learning rather than a debilitating stumbling block to [intercultural] communication” (p. 179), Schneider and von der Emde (2006) examined the lengthy transcript of a chat between two German students in an English teacher preparation course in Germany and two American women in a fifth-semester German culture course in the United States, all of whom participated in an 8-week telecollaborative partnership. The topic of the chat is the 1999 Columbine school shooting in Colorado, United States; a similar 2002 shooting in Erfurt, Germany; two news media portrayals of the shootings; and two documentary films about them (Bernd & Dickmann, 2003; Moore, 2003).

At the outset of the interaction, the German students stated that the films make it clear that it is easier to get guns in the United States than in Germany and suggest implicitly that violence in the United States might be related to “loose” gun control laws. The chat became quite heated, with the Americans responding that one should not generalize without knowing the exact wording of the gun control laws in each country. The American students later asked if the German school shooting was an outgrowth of Germany’s violent past in the same way that Moore (2003) suggested that Columbine might be a result of the United States’ “violent cowboy past.” The Germans responded that Americans are proud of their cowboy past, but that Germans cannot be proud of their own past. They then attempted to change the subject by suggesting that the group should get back to the assigned task of summarizing the films. The Americans, however, persisted in their questioning, even in the face of the Germans’ growing discomfort with the topic. One German then noted that one cannot compare a positively presented past (e.g., cowboys) to a negative past (e.g., Nazis): “I mean, if an American says: I want to carry a gun coz I have a cowboy background. A

German couldn't say: I want to carry a gun because my ancestors were Nazis?!" (p. 189). At this point the Germans realized their growing dilemma: If Germans have a current-day aversion to violence because of the lessons of their Nazi past, then it is difficult to explain the growing tendency for violence in present-day Germany.

The authors argued that subsequent metapragmatic and metalingual reflection on this interaction is an eminently meaningful task for these learners in which they may examine how and why each participant managed the emerging conflict linguistically (and over multiple turns at talk) to gain more insight into specific language use in sociocultural context, while, at the same time, gaining deeper insight into their partners' system of beliefs and values as well as those of their own.

Other studies of telecollaborative interaction have investigated the exposure of learners to the nuances and impact of variations in conversational style, the negotiation of multistep collaborative projects, the performance of apologies, the presentation of opinions, and the negotiation of positive and negative face (see Belz, 2003, 2006; Kramsch & Thorne, 2002; O'Dowd, 2003; Ware, 2005).

Longitudinal Documentation of Developmental Pathways of L2 Pragmatic Competence

The preponderance of cross-sectional analyses of L2 pragmatic competence is so great that Kasper and Rose (2002) remarked that the call for longitudinal studies in this area is fast achieving "cliché status" (p. 117; see also Kasper, 2000). Bardovi-Harlig (1999, p. 677) pointed out that L2 pragmatics is "fundamentally not acquisitional" in a review article on the state of L2 pragmatic research and suggested that increased attention to the measurement of change in L2 pragmatic systems is a "necessary stage in the maturing of the field of [L2] pragmatics research" (p. 680). Although a number of studies have appeared that do take a longitudinal approach (e.g., Bardovi-Harlig & Hartford, 2005; Barron, 2003; Hoffman-Hicks, 2000; Ohta, 2001; Schauer, 2006; Schmidt, 1983), they do not rely heavily on either CM or CMC. In this section, I examine the ways in which both these phenomena can contribute to developmental studies of L2 pragmatic competence with a particular emphasis on microgenetic analysis and the production of individual profiles of developmental pathways.

Schütz (2005) is an innovative study that entails a developmental component and employs CM to examine the (competing) influences of learners' cultural models (Gee, 1999) and a film-based, German-language culture curriculum on their development of intercultural competence (which entails many aspects of pragmatic competence) as indexed by their use of epistemic and deontic modality, lexical absolutes, verbs of reflection, and temporal adjectives in online weblogs (a.k.a. blogs). Nineteen learners in two fourth-semester German courses at an East Coast university viewed Edgar Reitz's (1984) epic film *Heimat* (similar to Alex Haley's *Roots*) in 11 installments and subsequently participated in a variety of tasks regarding their emerging and changing understandings of both German and American culture. The leading task and data source in the study was the maintenance of individual blogs

in which students responded to prompts concerning their understanding of aspects of culture such as patriotism and propaganda, commented on classmates' blogs, and reflected on their own past entries.

One of the most interesting findings concerns the case study of Mike (a pseudonym), a 22-year-old student who had grown up in the "total institution" (Goffman, 1961) of the U.S. military and may therefore operate (at least partially) on the basis of a cultural model in which conformity, hierarchy, loyalty to country, and obedience to authority are valued (see Wertsch, 1991). In general, Mike's language is permeated by the use of categorical present tense verbs (*Patriotism is positive*), lexical absolutes (*All Americans are proud of their country*), few attributions to others, few verbs of reflection (*It seems that. . . , I think that. . .*), few linguistic structures that could convey a degree of hesitation (*It might be the case that. . . , maybe*), and the bare minimum of evidence or justification for his claims. This pattern of language use construes Mike as an authoritative speaker who holds views that are factual, depersonalized, and uncontested.

As the semester progresses, there is little change with regard to Mike's use of language when he is defending his country or the U.S. military. There does appear to be an increase in his use of preliminary clauses and modal adverbs when he discusses the beliefs of others about Americans and the United States; however, he does not use these same linguistic features to mark critical reflection on *his own* beliefs or values. Schütz's (2005) study is important in that the author attempts to establish a relationship between particular classroom tasks, learners' personal histories, and their (changing) understandings of their world as marked by their varying language use in context. For the case of Mike, Schütz (2005) concluded that educational efforts to develop intercultural competence may be impeded by "a *Weltanschauung* that has been shaped for the past twenty-two years in an overwhelmingly military environment" (p. 157).

Two key advantages of telecollaborative language learning with respect to the developmental documentation of changing L2 pragmatic competence are (1) the prolonged and extensive access to NS age peers and (2) the use of CMC as the exclusive mode of learner–NS interactions. These design features afford not only developmental but also microgenetic⁶ documentation of learner performance because the researcher may capture every single L2 utterance produced by every single learner over the typical 2- to 3-month duration of telecollaborative partnerships. Such dense documentation of learner productions contributes to SLA research because it facilitates richly detailed descriptions of learners' precise developmental pathways.

Belz and Kinginger (2003) capitalized on these qualities of telecollaboration—in combination with rich ethnographic data in the form of participant observation, field notes, biographical surveys, and sociolinguistic interviews—to trace the history of informal versus formal pronoun use (i.e., T vs. V use) by 11 learners of German in a 2-month German-American partnership. At the outset of the partnership, all learners inappropriately use V forms, even though the

telecollaborative correspondence was initiated by the NSs who only used T forms in all cases. By providing a day-by-day account of all pronoun uses for each learner in both e-mail and chat interactions, these authors examine the development of the sociopragmatics of address form competence (when to use T forms and when to use V forms) with respect to moments of peer assistance by NS keypals in the telecollaborative interaction.

Following their inappropriate use of V, each learner received unsolicited peer assistance from their NS keypals during which they were advised not to use V. NS explanations for this directive consisted of a variety of fragmentary and often contradictory information (e.g., “use V when speaking politely,” “use V with people who are not your mate,” “use T because V is too polite”). Nevertheless, the microgenetic analysis shows that 10 of the 11 learners adopted T forms following peer assistance either abruptly (five learners) or gradually (five learners). Abrupt development occurred when learners used no more V forms after the moment of peer assistance, whereas gradual development occurred when the relative percentage of V uses before peer assistance was greater than the relative percentage of V uses after peer assistance, but had not decreased abruptly to zero.

The value of the microgenetic analysis lies in the ability to closely detail varying individual pathways of development in association with particular aspects of the learners’ history of participation. For example, in his first e-mail, Tom (a pseudonym) exclusively used V forms. After he noticed that his American partner used only T forms, he adopted exclusive and primarily accurate use of T forms with respect to number and case. This pattern indicates that Tom’s pragmlinguistic and grammatical knowledge of the pronouns was intact at the outset of the partnership but that he required assistance with regard to his sociopragmatic knowledge.

Mick (a pseudonym), on the other hand, appeared to require development of his sociopragmatic, pragmlinguistic, and grammatical knowledge of the pronouns as is evidenced by his continued use of V forms after peer assistance and his patterns of use with regard to both number and case. To illustrate, Mick’s use of V forms decreased from 60% before peer assistance to 10% after peer assistance, but this decrease is not uniform across the categories of number and case. In particular, his use of V in the nominative case (e.g., *Ste*) disappears first, while his use of V forms in the oblique cases and as a possessive adjective (e.g., *Ihnen*, *Ihr-*) persists longer. Further, his use of T plural forms (e.g., *ihr*, *euch*, *euer-*) emerge later in general than his use of T singular forms (e.g., *du*, *dich*, *dir*, *dein-*).

Because the great majority of learners developed toward NS norms following peer assistance, even though the content of the assistance was fragmentary and ambiguous, Belz and Kinginger (2003) suggested that “it was not necessarily the *information* given by the expert speaker that afforded [learner] development, but rather the *act of peer assistance itself*” (p. 630; italics in the original). In other words, “awareness of the social meaning of address forms is greatly enhanced by experiences in which learners participate in the use of those forms within contexts motivating them to maintain positive face” (p. 641).

In a later study, Kinginger and Belz (2005) provided a very detailed, corpus-assisted, microgenetic analysis of the development of address form competence for the case of Grace, a 19-year-old learner of German in a similar telecollaborative partnership. In addition to Grace's sociopragmatic knowledge, Kinginger and Belz (2005) explored her pragmalinguistic and grammatical knowledge of address forms as well as her metapragmatic awareness of all three types of knowledge. The fine-grained analysis shows that gaps in her pragmalinguistic and grammatical knowledge impede the overall accuracy of her sociopragmatic performance despite multiple episodes of peer assistance with regard to the sociopragmatics of T/V use and accurate articulations of sociopragmatic knowledge in post-telecollaboration interviews.

Hellerman (2006) represents an important "microethnographic study" which traces the development of interactional competence for two adult learners of English in a modified Sustained Silent Reading (mSSR) program at a community college over a 30-week period using a multi-modal learner corpus of classroom interactions. The data collection procedures employed in this study represent a significant contribution to the analysis of learner development with respect to modality (audio and video) as well as density and length of observation. A further advantage of the study is the public accessibility of the analysed video clips on the Internet as indicated in the notes section of the article.

Pedagogical Intervention in L2 Pragmatics Instruction

Research has shown repeatedly that (explicit) instruction is more facilitative of L2 pragmatic development than mere exposure to targeted features (Rose, 2005, p. 392; see also Bardovi-Harlig, 2001; Kasper, 2001a; LoCastro, 2003; Martínez Flor, Usó Juan, & Fernández Guerra, 2003); nevertheless, Kasper and Rose (2001) noted that there are very few studies in which learners' L2 pragmatic development is related to their particular instructional experiences. In fact, "most of the interlanguage pragmatics research informs about learners' pragmatic ability at a particular point in time without relating it systematically to their learning experience in language classrooms" (Kasper & Rose, 2001, p. 4). Kasper (1998) went so far as to state that she was "not aware of any teaching proposals based on developmental studies of pragmatic competence" (p. 145). Furthermore, there are almost no studies that combine both a developmental and interventional component. In this section, I review an emerging body of research in which CM is a key tool in designing teaching proposals based on developmental research and in relating learner outcomes to particular teaching events.

Belz and Vyatkina (2005) investigated the development of L2 pragmatic competence in 14 fourth-semester learners of L2 German as reflected in their use (frequency and accuracy) and awareness of four German MPs (*ja, mal, doch, and denn*) during a 9-week telecollaborative partnership. Learners' and NSs' computer-mediated interactions (both e-mail and chat) were entered daily into a locally designed database in association with a variety of metadata (name, age, gender,

language proficiency, computer know-how, etc.), which resulted in the compilation of one of the first developmental learner corpora with a built in control corpus (the NS keypals' productions). The corpus serves both as a mechanism by which to ascertain and track learners' performance in comparison with NS performance *in the very same interactions* and as a source of material for specific, individualized developmental pedagogical interventions. The interventions (i.e., teaching modules) are termed "developmental" because they are designed in response to (individual) learners' emerging and changing MP use as monitored in the growing learner corpus.

Based on a contrastive learner corpus analysis of the learners' interactions during the preintervention phase of the experiment, wherein learners' MP use was compared with their NS keypals' use, the researchers ascertained that the learners significantly underused the MPs (one learner used two MPs four times in comparison to 154 uses for the NSs). Using the learners' and NSs' own productions from the preintervention stage, a first pedagogical intervention was designed in which learners were (1) asked to provide metapragmatic awareness data, (2) introduced to the notion of pragmatics, and (3) shown five hard-copy examples of their keypals' MP use on which the MPs were bolded. After the first intervention, the learners corresponded with their keypals for one more week, while the researchers tracked their (emerging) particle use via the learner corpus. During this week, two learners used four MPs with an accuracy rate of 25%.

In the second intervention, learners were (1) shown the same five excerpts from the first intervention and told that the bolded words are attitudinal markers, (2) made aware of their underuse in comparison to their NS keypals in the very same interactions, (3) given instruction in the meaning and use of the focal MPs, and (4) given additional examples of their partners' MP use extracted from their own telecollaborative interactions in the preceding week. After the second intervention, the learners corresponded with their partners for one more week, while the researchers again tracked their (emerging) MP uses. During this week, 12 learners used 41 MPs with an accuracy rate of 80%.

In the third intervention, learners were (1) shown examples of their own emerging MP use between interventions 2 and 3, (2) given fine-tuned instruction in the meaning and use of the MPs based on their own errors, and (3) shown additional uses of the MPs by their NS keypals. After this week, 10 learners used 43 MPs with an accuracy rate of 90%. At this point the semester ended, and the learners participated in postintervention interviews concerning their performance and metapragmatic awareness of the MPs (see Vyatkina & Belz, 2006).

This research is unique on a number of grounds. First, the compiled learner corpus represents one of the very first developmental learner corpora with a built in control corpus. Second, it is one of the few attempts (Nesselhauf, 2004, p. 127) to incorporate data-driven learning into L2 pragmatics instruction to date (see also Meunier, 2002). Third, it is one of the few studies in which particular types of L2 pragmatics instruction (the enhanced condition in the first intervention and the explicit condition in the second and third interventions) are linked to particular

learner outcomes. Fourth, it is one of the only reports of a developmental pedagogical intervention for L2 pragmatics in which teaching materials are based on learners' own previous productions and sensitive to their emerging performance profiles. This configuration thereby addresses Widdowson's (2001) critique that corpus data are necessarily removed from their contexts of production and therefore difficult for learners to authenticate (see also Braun, 2005; Mishan, 2004a; Seidlhofer, 2002). Finally, it is one of the first microgenetic analyses of L2 pragmatic development in which learners' performances are situated both quantitatively and qualitatively within a richly documented ecology of use (e.g., classroom instruction, students' learning histories, reactions to the interventions, journal reflections, and keypals' interactions). One drawback of this study is the labor-intensive process of daily data input. A further constraint is the inability to track the long-term impact of the suggested interventions due to institutional constraints on the length of the instructional period.

Kakegawa and Miyazaki (2007) examined the (emerging) use of four sentence final particles (SFPs), i.e., *ne*, *yo*, *yone*, and *noda*, by third-semester learners of Japanese at an American university. Twenty Japanese learners corresponded with NSs of Japanese in Japan via e-mail for a period of 11 weeks. Following the procedures established by Belz and Vyatkina (2005), the researchers conducted a first SFP intervention after 4 weeks of electronic correspondence and a second intervention after 8 weeks. NS SFP uses during the preintervention phase are used as a baseline for learner performance. Unlike Belz and Vyatkina (2005), Kakegawa and Miyazaki (2007) included an external control group in their study, which consisted of the electronic correspondence of Japanese learners in a previous iteration of the course under study.

The results show that learners in both the treatment and control groups used SFPs much less frequently than NSs during the preintervention phase of the experiment. In the postintervention phase, the learners used more SFPs than NSs did. All participants in the treatment group increased both the number and range of their SFP use in comparison to the preintervention phase, whereas the control groups' aggregate SFP use did not change over time. In addition, the learners in the treatment group used SFPs more productively than learners in the control group, where the majority of uses occurred within formulaic expressions.

Vyatkina (2007), an expansion and refinement of Belz and Vyatkina (2005), is the most comprehensive, data-driven developmental pedagogical intervention on L2 pragmatic competence to date. Several new findings emerged from this study, particularly with respect to the collocational patterning of learner and NS MP use. For example, using concordancing software, the researcher ascertained that NS uses of the MP *ja* tended to co-occur with second person pronouns, which reinforces the interpersonal pragmatic meaning of the modal particle, while learner uses did not. Furthermore, most of the learners' emerging uses of the MPs occurred in fixed lexical patterns, whereas most of the NSs' uses occurred in free constructions. This is an important finding because it provides new descriptive information on the nature of advanced proficiency in German. Thus, while the pedagogical intervention facilitated the learners' approximation of NS norms with respect to frequency and accuracy of

MP use, it did not seem to impact their performance with regard to collocational patterns. Future interventions will need to target explicitly this aspect of competence as well.

Reinhardt (2007) is an applied learner corpus study in which a database of international teaching assistants' (ITAs) directive language use (*you need to. . . ; you should. . .*) in online and F2F office hours role-plays was compiled, compared with NS productions in MICASE (Simpson, Briggs, Ovens, & Swales, 2002), and subsequently used as the basis for a preliminary teaching module for ITAs in preparation. One important contribution of this promising study is the identification of a method for the corpus-based analysis of pragmatic usage that, according to the author, avoids time-consuming manual tagging and requires examining only a subset of the larger corpus.

Final Remarks

The research reviewed here represents three basic applications of CM and CMC in L2 pragmatics research and instruction. First, CM serves as a means of either delivery or connection whereby learners have increased access to genuine materials and increased opportunities for participation in meaningful interactions, which have been shown to facilitate L2 pragmatic development. These materials and opportunities can take the form of self-directed Web sites that contain examples of multimodal NS pragmatic performance and explicit discussions of pragmatic competence or naturalistic, projected-based interactions with NS keypals in the form of telecollaborative partnerships. Second, CM can afford the construction of systemized corpora of NS and learner productions, which can again serve as sources for instructional materials or which can be used to track changes in learners' L2 pragmatic competence over time, if composed of developmental data. Finally, CM can afford the design and execution of developmental pedagogical interventions on aspects of learners' emerging L2 pragmatic competence by directing their attention to their own and NSs' uses of focal pragmatic features in a context of authenticity.

The computer-mediated assessment of L2 pragmatic competence is an especially underexplored area of research (see Salaberry & Cohen, 2006). One notable exception is Röver (2006), who developed and validated a 36-item Web-based test of ESL pragmalinguistics, which measures learners' knowledge of implicatures and routines by means of multiple-choice questions and their knowledge of speech acts using DCTs. It should be noted that the pedagogical interventions employed in Belz and Vyatkina (2005), Vyatkina (2007), and Kakegawa and Miyazaki (2007) constitute a form of dynamic assessment, that is, an "interactive assessment that includes deliberate and planned mediational teaching and the assessment of the effects of that teaching on subsequent performance" (Haywood & Tzuriel, 2002, p. 40), because the researchers provided individualized instruction and examination sensitive to the individual learner's needs, identified obstacles to learning and performance, investigated how specific learners function with the support of more experienced interventionists (i.e., NS keypals), and taught metacognitive strategies to promote change.

Future research should continue to track changes in L2 pragmatic competence microgenetically in conjunction with rich ethnographic data on individual learners to explore the ecology of L2 developmental pathways and thereby contribute to SLA research. Additional work is needed on the relationship between particular pedagogical interventions and particular learning outcomes for specific groups of learners. More research is required in which the impact of various modes of CMC (SIEs, oral chat, videoconferencing, instant messaging, podcasting) and pedagogical interventions on L2 pragmatics development is explored. Further, research is needed in which interdialectal pragmatic variation is examined and suggestions for its teaching are made.

Corpus linguists must continue to work on ways of tagging corpora for pragmatic information that (1) is not limited to single words or phrases, that is, pragmatic episodes that span turns (Félix-Brasdefer, 2006); (2) is distributed throughout a text; and (3) has multiple linguistic realizations (e.g., Maynard & Leicher, 2007; Adolphs & Carter, 2007). Software designers and computer programmers need to continue to develop software applications that would facilitate the automatic archiving of CMC (and other modes of interaction) into learner corpora in association with relevant metadata, thereby sidestepping the time-consuming process of manual data input.

Practitioners and researchers should expand Web sites such as *Dancing with Words* to include more languages as well as aspects of pragmatic competence that transcend the speech act, for example, persuasive language, evaluative language, politeness phenomena, and metaphor. In addition, they should continue to develop pedagogically mediated corpora such as *ELISA*, which contain multimodal data (Braun, 2005). Finally, methods of evaluation for computer-mediated instructional materials should be developed and refined (see Crandall & Basturkmen, 2004).

Notes

1. The study of pragmatics generally is divided into two subareas. *Pragmalinguistics* refers to “the [linguistic] resources for conveying communicative acts and relational or interpersonal meanings” (Kasper & Rose, 2001, p. 2), while *sociopragmatics* involves “the social perceptions underlying participants’ interpretation and performance of communicative interaction” (ibid.). Röver (2006) explained that learners require some measure of competence in both subareas for successful pragmatic performance because “sociopragmatic knowledge provides language users with the rules of what is socially acceptable and appropriate, and pragmalinguistic knowledge equips them with the tools for expressing themselves” (p. 231).

2. As used in this article, computer mediation (CM) refers to the use of the computer by people to mediate aspects of their daily lives including both work-related and recreational activities. CMC is a particular type of CM whereby people use the computer to communicate with other people. Thus, the use of the computer to shop

online, run a statistical analysis, or look up books in an online library catalogue are examples of CM, while the use of the computer to chat with a friend in another city is an example of CMC. CMC necessarily involves CM, while CM does not necessarily involve CMC.

3. See, however, Ackerley & Coccetta (2007); Greaves & Warren (2007); Hidalgo, Quereda, & Santana (2007); and Vannestål & Lindquist (2007), for recent applications of native corpora in the language classroom.

4. Granger (2002) defined learner corpora as “electronic collections of authentic FL/SL textual data assembled according to explicit design criteria for a particular SLA/FLT purpose. They are encoded in a standardised and homogeneous way and documented as to their origin and provenance” (p. 7), while Nesselhauf (2004) described learner corpora as “systematic computerized collections of texts produced by language learners” (p. 125).

5. Technically, Kinginger’s (1998) study did not involve CM because the videoconferences were conducted using CODEC technology and phone lines. The study is included here, however, because it is one of the very first to examine the role of videoconferencing in language instruction and because subsequent technological advances have enabled videoconferencing via CM (see O’Dowd, 2006).

6. Microgenesis is a type of longitudinal documentation (Wertsch, 1985, p. 55), but longitudinal studies are not necessarily microgenetic. The difference lies in the density of observation of the phenomenon under study, among other things. For example, a study may be termed longitudinal if data are elicited from learners at set intervals over a period of time, for example, once a month for a period of 10 months (although most longitudinal studies do not include this many data elicitation points). A microgenetic analysis, in contrast, would attempt to capture all L2 productions at all points between intervals. One advantage of such data capture is that it facilitates a fine-grained examination of developmental steps such as the cyclic emergence of features and backsliding, which may not be documented in other collection methods because they occur between elicitation intervals.

ANNOTATED REFERENCES

Belz, J. A., & Vyatkina, N. (2005). Learner corpus analysis and the development of L2 pragmatic competence in networked intercultural language study: The case of German modal particles. *Canadian Modern Language Review/Revue Canadienne des Langues Vivantes*, 62(1), 17–48.

This article is the first published account of the use of a developmental learner corpus to track learners’ development of L2 pragmatic competence over time and to design and execute a data-driven pedagogical

intervention in response to learners' emerging pragmatic competence. Learners' ability to work productively with corpus data in language learning has been challenged because a number of scholars question their capacity to create a meaningful relationship with corpus texts and thereby authenticate them (e.g., Prodromou, 1995; Widdowson, 2003; see Seidlhofer, 2003, for a review). Because the learners in this study use pedagogically mediated corpus materials that are drawn from their own previous interactions with their NS keypals, they are more likely to be able to authenticate the corpus data because they are not removed from the context of text production.

Kakegawa, T., & Miyazaki, S. (2007). The development of sentence-final modal expressions in JFL e-mail correspondence. A paper presented at the 17th International Conference on Pragmatics and Language Learning, Honolulu, Hawaii, March 27.

In this replication study of Belz and Vyatkina (2005), the authors report on the effectiveness of developmental pedagogical interventions for the development of Japanese learners use of sentence final particles in the context of a Japanese–American telecollaborative exchange.

Sykes, J. M., & Cohen, A. (2006). *Dancing with words: Strategies for learning pragmatics in Spanish*. Regents of the University of Minnesota. Retrieved October 15, 2007 from http://www.carla.umn.edu/speechacts/sp_pragmatics/home.html

Dancing with Words is an extensive, self-directed Web site designed to supplement classroom L2 Spanish instruction that consists of an introductory unit on pragmatics in general and seven instructional modules, which cover the following “speech acts”: (1) compliment sequences; (2) gratitude and leave taking; (3) requests; (4) apologies; (5) invitation sequences; (6) service encounters; and (7) advice, suggestions, disagreement, complaints, and reprimands. A helpful concluding unit contains information on and examples of politeness, conversational practices (including “challenge questions”), written communicative acts, and references. One of the main strengths of *Dancing with Words* is the ways in which it fills documented textbook gaps in the explicit discussion of pragmatic knowledge.

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